

## **WHAT IS CLAIMED IS:**

Claim 1- A connecting structure for affixing an open end of a tube composed from thermoplastic resin material(s) to a tube connecting portion of a quick connector having a cylindrical geometry and at least one annular stopper on the cylindrical outer circumference thereof with said tube connecting portion being adapted to be press fitted into said open end of said resin tube; said connecting structure comprising:

an annular band composed of elastomeric rubber surrounding the open end of said resin tube adjacent the location of attachment to said quick connector, said annular rubber band having a length equal to about at least the diameter of said cylindrical outer circumference and a diameter such that a tightening force is applied to said resin tube upon press fitting said tube connecting portion into the open end of said resin tube to prevent disengagement therefrom with said annular rubber band being formed of a plurality of elastomeric rubber layers.

Claim 2- The connecting structure as set forth in Claim 1 wherein said annular rubber band has one end thereof displaced from said open end of resin tube into which the tube connecting portion is press fitted to form an exposed free end of resin tube.

Claim 3- The connecting structure as set forth in Claim 1 wherein the rubber band is of a length such that the end of said rubber band disposed opposite said open end of said resin tube extends longitudinally beyond the end of the tube connecting portion upon being press fitted into said resin tube.

Claim 4- The connecting structure as set forth in Claim 2 wherein the opposite end of said rubber band extends longitudinally beyond the end of the tube connecting portion upon being press fitted into said resin tube.

Claim 5- The connecting structure as set forth in Claim 4 wherein said annular rubber band includes a reinforcing layer composed of reinforcing threads or of canvas cloth.

Claim 6- The resin tube connecting structure as set forth in Claim 1 further comprising a clamping means for further tightening of said annular rubber band.

Claim 7- The resin tube connecting structure as set forth in Claim 4 further comprising a clamping means for further tightening of said annular rubber band.

Claim 8- An integrated assembly comprising: a fluid tube connector having a tube connecting portion of cylindrical geometry and an annular stopper on the cylindrical outer circumference thereof; a thermoplastic resin tube, having an open end through which the tube connecting portion of said fluid tube connector is press fitted to form a tight coupling; and an annular rubber band fitted to the outer circumference of the open end of said resin tube, said annular rubber band having a length equal to about at least the diameter of said cylindrical outer circumference and a diameter such that a tightening force is applied to said resin tube adjacent at the open end into which said tube connecting portion has been press fitting to prevent disengagement therefrom.

Claim 9- An integrated assembly as set forth in Claim 8 wherein said annular rubber band has one end thereof displaced from the connecting end of the resin tube into which the tube connecting portion is press fitted to form an exposed free end of resin tube.

Claim 10- An integrated assembly as set forth in Claim 9 wherein said annular rubber band is of a length such that the opposite end thereof extends longitudinally beyond the end of the tube connecting portion press fitted into said resin tube.

Claim 11. An integrated assembly as set forth in Claim 8 wherein said annular rubber band comprises a plurality of layers including a reinforcing layer formed from threads or canvas cloth.

Claim 12. An integrated assembly as set forth in Claim 10 further comprising a clamping means for further tightening of said annular rubber band.

Claim 13. A method for connecting an open end of a resin tube to a tube connecting portion of a quick connector having a cylindrical geometry and an annular stopper on the cylindrical outer circumference thereof, comprising the steps of:

inserting said tube connecting portion into said open end of said resin tube to form a tight coupling; and

placing an annular rubber band over said resin tube at said open end thereof for tightening said coupling, said annular band having a length being at least about equal to the diameter of said cylindrical outer circumference and a diameter such that a tightening force is applied to said resin tube at said press fitted end to prevent disengagement .

Claim 14- A method as defined in Claim 12 wherein said open end of said resin tube has a diameter smaller than the diameter of said outer circumference of said tube connecting portion and further comprising the steps of:

enlarging the diameter of said open end of said resin tube before press fitting said tube connecting portion therein;

press fitting said tube connecting portion into the enlarged open end of said resin tube; and

heat-softening said enlarged open end of said resin tube before, during or after press fitting said tube connecting portion utilizing the tightening force of said rubber band.

Claim 15- The method as set forth in Claim 14 wherein the open end of said resin tube is softened by heating said resin tube at the point of enlargement.

Claim 16- The method as set forth in Claim 13 wherein said annular rubber band has one end displaced back from the open end of said resin tube exposing a free end of resin tube when press fitting said tube connecting portion into said open end.

Claim 17- The method as set forth in Claim 13 wherein said annular rubber band is of a length such that the end of said rubber band disposed opposite said open end of said resin tube is displaced longitudinally beyond the end of the tube connecting portion when press fitting said tube connecting portion into said open end.

Claim 18- The method as set forth in Claim 16 wherein said annular rubber band is of a length such that the opposite end thereof is displaced longitudinally beyond the end of the tube connecting portion press fitted into said resin tube.